No. 200200143

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

ProGene L.L.C.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA, FIELD

'Hero'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this sixteenth day of September, in the year two thousand two.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
ProGene L.L.C.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
8612-2g

3. VARIETY NAME
Hero

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
860 S. Crestline
Othello, WA 99344

5. TELEPHONE *(Include area code)*
(509) 488-3977

6. FAX *(Include area code)*
(509) 488-5289

FOR OFFICIAL USE ONLY

PVPO NUMBER
200200143

FILING DATE
4-23-2002

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Partnership (Limited Liability Co.)

8. IF INCORPORATED, GIVE STATE OF INCORPORATION

9. DATE OF INCORPORATION

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Kurt Braunwart
860 S. Crestline
Othello, WA 99344

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2705.00
DATE 4/23/2002

CERTIFICATION FEE:
$ 320.00
DATE 8/29/02

11. TELEPHONE *(Include area code)*
(509) 488-3977

12. FAX *(Include area code)*
(509) 488-5289

13. E-MAIL
progene@cbnn.net

14. CROP KIND *(Common Name)*
Field Pea

15. GENUS AND SPECIES NAME OF CROP
pisum sativum L.

16. FAMILY NAME *(Botanical)*
Leguminosae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

- a. ☒ Exhibit A. Origin and Breeding History of the Variety
- b. ☒ Exhibit B. Statement of Distinctness
- c. ☒ Exhibit C. Objective Description of Variety
- d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
- e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
- f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
- g. ☒ Filing and Examination Fee ($2,705), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 20 and 21 below)* ☒ NO *(If "no", go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? ☐ YES ☒ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☒ NO
IF YES, SPECIFY THE NUMBER 1,2,3, *etc.* ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☒ YES ☐ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Kurt Braunwart			
NAME *(Please print or type)* Kurt Braunwart		NAME *(Please print or type)*	
CAPACITY OR TITLE Managing Owner-ProGene	DATE 4/20/02	CAPACITY OR TITLE	DATE

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete. *(See reverse for instructions and information collection burden statement)*

INSTRUCTIONS 200200143

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,705 ($320 filing fee and $2,385 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

21. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

U.S.A. May 2001;Release date and sale of seed for first commercial evaluation.

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

02 APR 23 AM :19

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed/ls-sd.htm

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PROGENE LLC
860 S Crestline
Othello, WA 99344
E-mail: progene@cbnn.net
Cellular: (509) 989-0405
Fax: (509) 488-5289
Phone: (509) 488-3977

To: Mark Hermeling
USDA/PVPO
Washington, D.C.

From: Kurt Braunwart
ProGene L.L.C.

Subject: Application for PVP of field pea variety Hero
EXHIBIT A. Origin and Breeding History of the Variety

The original hybrid cross that Hero (Hybrid cross number 8612) came from was made in 1986. The cross was between the following varieties:

Amino (a Blondeau variety from France) X PX-7214-2-2-1

PX-7214-2-2-1 is a germ plasm line which came from crossing 802092 {origin unknown) with Novella, which is a fresh freezer pea variety bred & owned by Rogers Brothers Seed Company – which is now part of Syngenta Seeds. The cross was made before ProGene purchased the breeding program from Rogers Brothers Seed Co.

Following is a chronological progression of the cross up to the current position of Hero (8612-2g) as a variety.

1987	F1:2 with bulk at harvest in Pacific Northwest
1988	F2:3 with an SPD (Single Pod Decent) harvest from population
1988/1989	Winter Nursery in Indio California F3:4 with SPD
1989	F4:5 population and 8612-10f (Hero) came from the 10th SPS (single plant selection) out of 12
1990	F5:6 planted as a plant row and 8612-2g (Hero) came from the 2nd RS (Reselection) out of 2
1991	F6:7 planted as a plant row and saved as a bulk
1992	1st year in the Preliminary Yield Trial
1993	Program was dormant
1994	Program was dormant
1995	Program was purchased from Rogers by ProGene and 8612-2g was planted in Advanced Yield Trial
1996	8612-2g was again planted in the Advanced Yield Trial
1997	A small plot seed increase of 8612-2g with production of 146 lbs
1997/1998	A winter increase was attempted in Chile which failed totally
1998	Further small plot seed increase
1999	6 acre seed increase by Stubbs Seed Services (SSS = agent for ProGene) and first year in University trials
2000	Seed increase by SSS

2001 May / First Commercial sale of seed by SSS for planting to produce edible product for market evaluation. Requested and received clearance of the name Hero for a dry field pea (see attached clearance letter) and 8612-2g is named Hero.

2002 February / application for PVP

Criteria used to select Hero as a variety to release in the Pacific Northwest of USA:

- **Enation Virus Resistance**
- **Larger seed size** – seed is larger than Columbian, the current standard in the Pacific Northwest Industry.
- **Uniformity** in roundness, size and color **of seed** – uniformity is better than Columbian.
- **Bleach resistance** – It was verified that hero had comparable bleach resistance as Columbian.
- **Standability** – Hero has exhibited adequate to good standability clear to physiological maturity. Hero is an **Af (semileafless)** variety which assists in standability.
- **Yield**

Statement of Stability and Uniformity:

Hero has been observed by ProGene research personnel and Stubbs Seed Service over five generations of seed increase and has been found to be stable and uniform. Hero has been found to be uniform in all traits listed in schedule "C".

Statement of "No Variants"

Hero has been observed over the past five generations of seed increase with no variants being observed.

PROGENE LLC

860 S Crestline
Othello, WA 99344
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Fax: (509) 488-5289
Phone: (509) 488-3977

To: Mark Hermeling
USDA/PVPO
Washington, D.C.

From: Kurt Braunwart
ProGene L.L.C.

July 29, 2002

Subject: Application for PVP of field pea variety Hero
EXHIBIT B. Statement of Distinctness

The variety most similar to Hero is Karita. Both Hero and Karita are green seeded semi-leafless spring field pea varieties. However there are some distinct differences. Disease comparisons are from observations made by WSU plant breeders and ProGene. Four statistical comparisons are made here with all of the data coming from replicated yield trials using the randomized plot system. The data is from three sources that are denoted as follows in the attached data sheets. All data is gathered in the Pacific Northwest states of Washington and Idaho which is the sole market location for Hero.

U of I (year/location)	University of Idaho
WSU (year/Pullman)	Washington State University
ProG (year)	ProGene at either Moscow or Genesee, Idaho (10 miles apart)

Disease Resistance – The most dramatic difference between Hero and Karita is in disease resistance. Hero is enation virus resistant while Karita is susceptible (ProGene). Hero is also resistant to Fusarium Wilt Race 1 while Karita is susceptible (WSU).

Maximum Green Plant Height – In every direct comparison Karita plant height was taller than Hero. Average over 3 years was Karita at 71 cm with Hero at 62 cm.

Days to First Bloom – In each comparison case Karita reached first bloom (80% of plants in bloom) earlier than Hero. On average Karita was 3 days earlier to first bloom than Hero.

Seed Size – In every comparison case out of the replicated yield trials the seed size of Karita was larger than Hero seed. 22.8 grams/100 seeds for Karita and 20.1 grams/100 seeds for Hero.

Nodes to First Bloom – Hero has consistently been 1 less node to first bloom than Karita.

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04-20-2002

Hero / Karita Plant Height in Cm comparison

TREATMENT	UI2yrs	WSU2yrs	Pro3yrs	AVERAGE
Hero	59.00	64.00	64.70	62.57
Karita	71.50	69.00	73.00	71.17
AVGS	65.25	66.50	68.85	66.87

ANOVA SUMMARY TABLE

SOURCE	df	SS	MS	F	SIGNF
BLOCKS	2	13.36	6.68	0.95	NS
TREATMENTS	1	110.94	110.94	15.70	NS
ERROR	2	14.13	7.07		
TOTAL	5	138.43			

THE F-VALUE WAS NOT SIGNIFICANT. LSD COMPUTED MAY HAVE NO MEANING.

LSD(5%)= 9.34

CV= 3.98%

LSD SUMMARY TABLE:

TREATMENT	OBS. MEAN	
Hero	62.57	A
Karita	71.17	A

04-20-2002

Hero / Karita Days to First Bloom Comparison

TREATMENT	WSU2000	WSU2001	Pro1999	Pro2000	Pro2001	AVERAGE
Hero	56.00	54.00	59.00	59.00	57.00	57.00
Karita	52.00	51.00	56.00	56.00	55.00	54.00
AVGS	54.00	52.50	57.50	57.50	56.00	55.50

ANOVA SUMMARY TABLE

SOURCE	df	SS	MS	F	SIGNF
BLOCKS	4	39.00	9.75	39.00	SIGNF
TREATMENTS	1	22.50	22.50	90.00	SIGNF
ERROR	4	1.00	0.25		
TOTAL	9	62.50			

LSD(5%)= 0.88

CV= 0.90%

LSD SUMMARY TABLE:

TREATMENT	OBS. MEAN	
Karita	54.00	A
Hero	57.00	B

04-20-2002

Hero / Karita Grams per 100 Seds Cmparison

TREATMENT	UI2yrs	WSU2yrs	Pro3yrs	AVERAGE
Hero	18.60	22.00	20.90	20.50
Karita	21.30	24.40	24.20	23.30
AVGS	19.95	23.20	22.55	21.90

ANOVA SUMMARY TABLE

SOURCE	df	SS	MS	F	SIGNF
BLOCKS	2	11.83	5.92	56.34	SIGNF
TREATMENTS	1	11.76	11.76	112.02	SIGNF
ERROR	2	0.21	0.10		
TOTAL	5	23.80			

LSD(5%)= 1.14

CV= 1.48%

LSD SUMMARY TABLE:

TREATMENT	OBS. MEAN	
Hero	20.50	A
Karita	23.30	B

04-20-2002

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Hero / Karita Nodes to First Bloom Comparison

TREATMENT	WSU2000	WSU2001	Pro2000	Pro2001	AVERAGE
Hero	16.00	16.00	16.00	16.00	16.00
Karita	17.00	17.00	17.00	17.00	17.00
AVGS	16.50	16.50	16.50	16.50	16.50

ANOVA SUMMARY TABLE

SOURCE	df	SS	MS	F	SIGNF
BLOCKS	3	0.00	0.00	%1000.00	SIGNF
TREATMENTS	1	2.00	2.00	%1000.00	SIGNF
ERROR	3	0.00	0.00		
TOTAL	7	2.00			

LSD(5%)= 0.00

CV= 0.00%

LSD SUMMARY TABLE:

TREATMENT	OBS. MEAN	
Hero	16.00	A
Karita	17.00	B

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(*Pea*)

OBJECTIVE DESCRIPTION OF VARIETY
PEA (*Pisum sativum* L.)

NAME OF APPLICANT(S)
ProGene L.L.C.

ADDRESS (Street and No. or RD No., City, State, and Zip Code)
860 S. Crestline
Othello, WA 99344

FOR OFFICIAL USE ONLY

PVPO NUMBER 200200143

VARIETY NAME
Hero

TEMPORARY OR EXPERIMENTAL DESIGNATION
8612-2g

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. [0][9] or [0][9]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ Please answer all questions for your variety; lack of response may delay progress of your application.

1. TYPE:

[2] 1=Garden 2=Field 3=Edible-podded 4=Other (SPECIFY): _____

2. MATURITY:

[16] Node number of first bloom: (15.9 Avg.)

[ ][ ][ ] No. of days processing

[ ][ ][ ][ ] Heat Units

[ ][1] No. of days *Earlier* than to physiological maturity

[ ][ ] No. of days *Later* than

[1] ~~1 = Alaska WR~~ 2 = Thomas Laxton WR 3 = Little Marvel
1=Columbian Hero Avg. 94.6 days Columbian Avg. 95.86 days

[ ] 4 = Wando 5 = Alderman WR 6 = Austrian Winter 7= Other

3. PLANT HEIGHT:

16 comperison trials

[0][6][3] Cm. High (63.04 Avg. Maximum green height-4 years 6 sites)

[4][4] Cm. *Shorter* than [X] Name of check cultivar Columbian

[ ][ ] Cm. *Taller* than [ ] Name of check cultivar _____

4. VINE:

[1.5] Habit: 1=Determinate 2=Indeterminate 1.5=intermediate

[2.5] Stockiness: 1 = Slim (Alaska) 2 = Medium (Thomas Laxton WR) 3 = Heavy (Alderman)

[1.5*] Branching: 1 = None (Alaska) 2 = 1-2 Branches (Little Marvel) 3 = More than 2 Branches (Dwarf Gray Sugar
*1.5=some branching but average less than 1 per plant.

[1] Internodes: 1 = Straight 2 = Zig Zag

[2][3] Number of nodes

5. **LEAFLETS:** 8612-2g Hero

[0] **Color:** 1 = Light Green (Alaska WR) 2 = Medium Green (Thomas Laxton WR) 3 = Dark Green (Alderman) 4 = Other (Specify)_____ 5 = Blue Green 6 = Yellow Green 0 = Not Applicable

[0] **Wax:** 1 = None 2 = Light 3 = Medium 4 = Heavy 0 = Not Applicable

[0] 1 = Not Marbled 2 = Marbled (Alaska) 0 = Not Applicable

[0] **Number of Leaflet Pairs:** 1 = Not Paired 2 = One 3 = Two 4 = Three or More 0 = Not Applicable

MAH 4/30/02 [2] **Leaflet Type:** 1 = Leafless 2 = Semi 3 = Normal

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6. **STIPULES:**

[2] 1 = Lacking 2 = Present [1] 1 = Not Clasping 2 = Clasping

[1] 1 = Not Marbled 2 = Marbled [ ] Size (Compared with leaflets): 1 = Smaller 2 = Same 3 = Larger 0 = Not Applicable

[0] **Color (Compared with Leaflets):** 1 = Lighter 2 = Same 3 = Darker 0 = Not Applicable

MAH 8/12/02 [2] **Color :** 1=Light-Green 2=Medium-Green 3=Dark-Green 4=Blue-Green 5=Yellow-Green 6=Other_____

Color Chart Value: 1999=138A
2001=137C

Select the Color Chart Used to Determine Values.

X Royal Horticulture Society Colour Chart
___ Munsell Color Chart
___ Other _____

[3] **Stipule Size:** 1=Small 2=Medium 3=Large

Please provide comparative varieties (check varieties) and stipule color.

	Variety (1)	Variety (2)	Variety (3)
Variety Name:	Cruiser	Columbian	Jasmine
Stipule Size:	Smaller than Hero	Smaller than	similar
Color Chart Value:	137A	137A	137B

7. **FLOWER COLOR:**

[6] **Venation** [1] **Standard** [1] **Wing** [6] **Keel** 1 = White 2 = Greenish 3 = Lavender 4 = Purple 5 = Red 6 = Other (specify)_____

Venation-pronounced yellow green

Keel-yellowish

. **PODS:**

8612-2g Hero

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[1] **Shape:** 1 = Straight 2 = Slightly Curved 3 = Curved

[2] **End:** 1 = Pointed (Alderman) 2 = Blunt (Alaska)

[1] **Color:** * 1 = Light Green (Alaska WR) 2 = Medium Green 3 = Dark Green (Alderman) 4 = Other (Specify)_____ 5 = Blue 6 = Purple 7 = Yellow

Color*-1999-144A; 2001 144B (RHS Colour Chart)

[2] **Surface:** 1 = Smooth 2 = Rough [2] **Surface:** 1 = Shiny 2 = Dull

[3] **Borne:** 1 = Single 2 = Double 3 = Single and Double 4 = Single, Double, & Triple 5 = Double & Triple 6 = Triple 7 = Other (Specify)_____ 8 = Quad, Single, Double, Triple 9 = Quad

[0][6] **CM. Length** 6.27 avg over 2 yrs. [1][1] **MM. Width (Between Sutures)** 11.32 avg over 2 yrs. [0][6] **No. Seeds Per Pod** 6.05 avg. over 2 yrs.

. **SEEDS (95-100 Tenderometer):**

[ ] **Color:** 1 = Light Green 2 = Green 3 = Dark Green 4 = Other (Specify)_____ 5 = Yellow 6 = Brown 7 = Yellow green

eive: %	1	2	3	4	5	6	7	8	Average
	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ][ ]

EEDS (Dry, Mature):

[3] **Shape:** 1 = Flattened 2 = Angular 3 = Oval 4 = Rounded 5 = Splashed 6 = Flecked 7 = Bicolored

[1] **Surface:** 1 = Smooth 2 = Dimpled 3 = Wrinkled [2] **Surface:** 1 = Shiny 2 = Dull

[1] **Color Pattern:** 1 = Monocolor 2 = Mottled 3 = Striped 4 = Dotted

[3] **Primary Color*** (148D)-Royal Horticultural Society Colour Chart 2001 seed. [ ] **Secondary Color** 1 = Creamy - White 2 = Cream & Green 3 = Light Green 4 = Medium Green 5 = Dark Green 6 = Blue-Green 7 = Yellow 8 = Brown 9 = Red 10 = Gray 11 = Black 12 = Salmon 13 = Purple 14 = Tan 15 = White 16 = Pink 17 = Yellow-Green

[2] **Hilum Floor Color:** 1 = White 2 = Tan 3 = Black [1] **Cotyledon Color*** 146 B 1 = Green 2 = Yellow 3 = Orange 4 = Cream

[2][1] **Grams per 100 Seeds** (Avg. 21.21 for 4 yrs., 9 sites)

*Royal Horticultrual Society Colour Chart 2001 seed

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10. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant) 8612-2g Hero

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED 200200143

[2]	Fusarium Wilt - Race 1	[ ]	Fusarium Wilt (Near Wilt) - Race 2
[ ]	Stripe Rust *(Puccinia striiformis)*	[ ]	Loose Smut *(Ustilago tritici)*
[ ]	Tan Spot *(Pyrenophora tritici-repentis)*	[ ]	Flag Smut *(Urocystis agropyri)*
[ ]	Halo Spot *(Selenophoma donacis)*	[ ]	Common Bunt *(Tilletia tritici* or *T. laevis)*
[ ]	*Septoria nodorum* (Glume Blotch)	[ ]	Dwarf Bunt *(Tilletia controversa)*
[ ]	*Septoria avenae* (Speckled Leaf Disease)	[ ]	Karnal Bunt *(Tilletia indica)*
[ ]	*Septoria tritici* (Speckled Leaf Blotch)	[1]	Powdery Mildew *(Erysiphe graminis* f. sp. *tritici)* (But Tolerant)
[ ]	Scab (*Fusarium* spp.)	[ ]	"Snow Molds"
[ ]	"Black Point" (Kernel Smudge)	[ ]	Common Root Rot *(Fusarium, Cochliobolus* and *Bipolaris* spp.*)*
[ ]	Barley Yellow Dwarf Virus (BYDV)	[ ]	Rhizoctonia Root Rot *(Rhizoctonia solani)*
[ ]	Soilborne Mosaic Virus (SBMV)	[ ]	Black Chaff *(Xanthomonas campestris* pv. *translucens)*
[ ]	Wheat Yellow (Spindle Streak) Mosaic Virus	[ ]	Bacterial Leaf Blight *(Pseudomonas syringae* pv. *syringae)*
[ ]	Wheat Streak Mosaic Virus (WSMV)	[ ]	Other (SPECIFY)
[2]	Other (SPECIFY) (Enation [illegible])	[ ]	Other (SPECIFY)
[1]	Other (SPECIFY) (Aphonomeces-Moderate)	[ ]	Other (SPECIFY)
[ ]	Other (SPECIFY)	[ ]	Other (SPECIFY)

11. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant)

[0]	Aphids	[ ]	Other (SPECIFY)

12. Additional information on any item above, or general comments that may aid in identification:

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Pr@Gene L.L.C.	8612-2g	Hero
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(Include area code)*	**6. FAX** *(Include area code)*
860 S. Crestline Othello, WA 99344	(509) 488-3977	(509) 488-5289
	7. PVPO NUMBER 200200143	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain** [X] YES [ ]

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? **If no, give name of country** [X] YES [ ] NO

10. Is the applicant the original owner? [X] YES [ ] NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

[X] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(If needed, use the reverse for extra space)*:

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.